

## What is ADHD? Is It a Type of LD?

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Many parents and educational professionals confuse ADHD and LD. Is ADHD a form of LD? No. Each is distinctive neurologically-based disorder. Each is recognized and diagnosed differently. Each is treated in a different way. The treatment for ADHD will not correct an LD. The treatment for LD will not help ADHD. Of importance is that about 30 to 40% of individuals with LD will also have ADHD. Thus, if you find one problem it is important to look for the other.

**Attention Deficit Hyperactivity Disorder** is a neurologically-based disorder caused by a deficiency of a specific neurotransmitter (norepinephrine and/or its precursors, dopa and dopamine) in a specific set of brain circuits. Depending on which areas of these circuits are involved, the individual might be hyperactive, distractible, or impulsive. Hyperactivity might involve up and down, fidgety, squirmy, wiggly behavior or might show only as fidgety hand movements. The distractibility might be to sound inputs, visual inputs, and/or to internal thoughts. Impulsivity might involve speaking before thinking, thus interrupting or calling out or might involve acting before thinking.

There are many reasons for these three behaviors, including anxiety or depression. Thus the diagnosis is not easy. There are no formal tests. The pattern of clinical history is used. If the hyperactivity, distractibility, and/or impulsivity started at a certain time (e.g. until third grade) or occurs only in specific settings (e.g., only at school or only when doing homework), the probable cause is anxiety or depression. ADHD is present at birth. Thus the history will be chronic and pervasive. These behaviors will have been present since early life and will exist in most of these behaviors that establishes the diagnosis.

The treatment involves raising the level of the deficient neurotransmitter. There are several medications that will accomplish this. One group works by increasing the production of the transmitter (Ritalin, dextroamphetamine, Adderall). The second group works by decreasing the breakdown of this transmitter; thus, whatever is produced stays around longer (imipramine, desipramine, nortriptyline).

**Learning Disabilities** are caused by "faulty wiring" in the cortex of the brain. The result is difficulty processing information. These processing problems might involve language, motor, cognitive, or executive functioning problems. The result will be problems with language, motor activity, reading, writing, math, organization, or other higher level tasks. Which disabilities an individual has will depend on the areas involved. When they will appear will depend on when the area of the brain that is wired differently begins to function.

Treatment of learning disabilities involves rehabilitation efforts. We cannot get rid of the faulty wiring; we have to help the individual learn how to learn with the disabilities. These interventions include remedial interventions, teaching compensatory strategies, and accommodations.

Thus, ADHD makes the individuals less available for learning because of the activity level, inattention, and/or impulsivity. LD makes the individual unable to learn in the normal way, requiring intervention strategies to learn how to learn. Medication will not help minimize the impact of LD. Special education services will not help minimize the impact of ADHD. Each requires proper recognition and specific treatments.